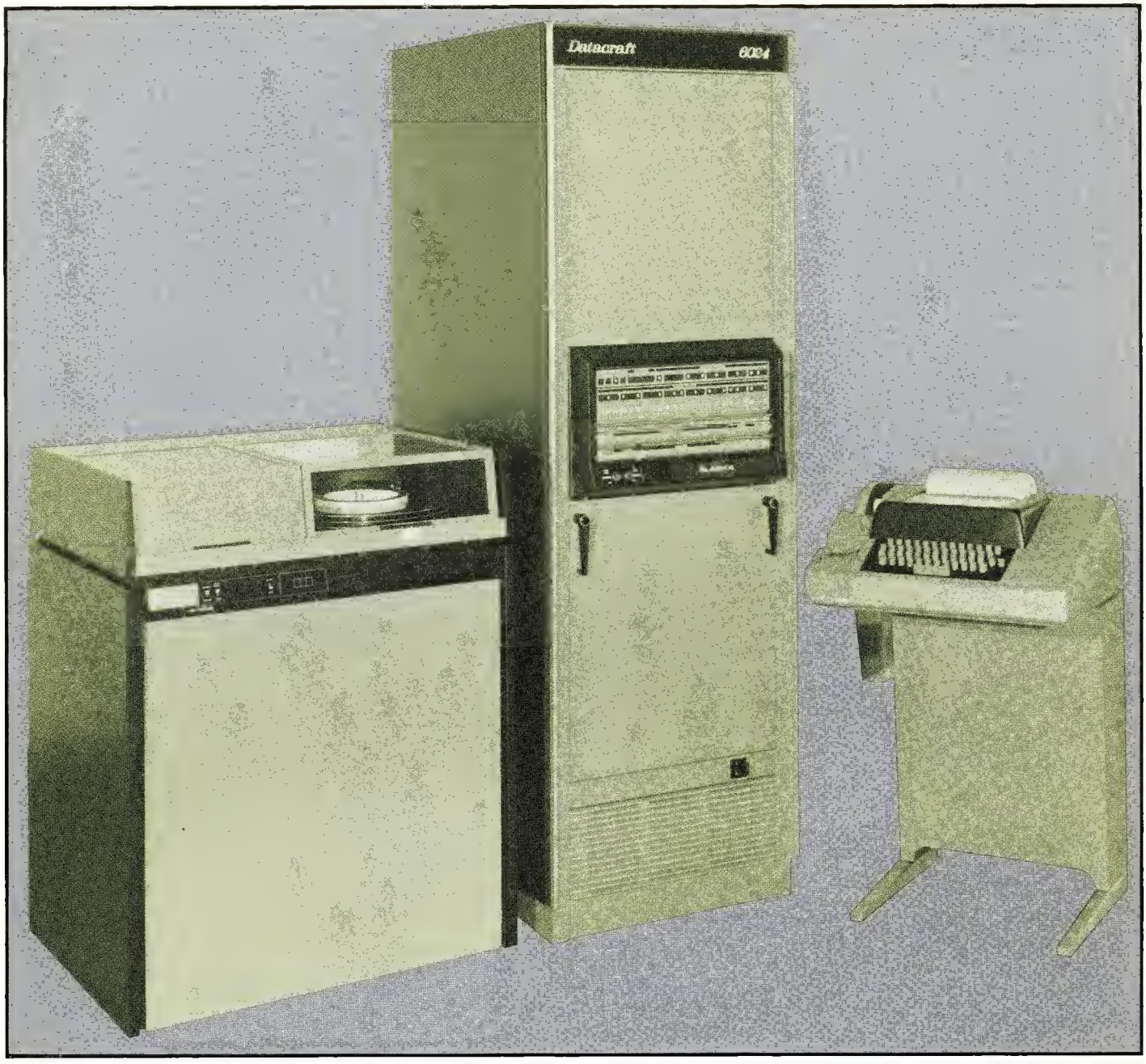

THE SLASH 4 REAL-TIME COMPUTER

PRODUCT BULLETIN

FEATURES

- Lower core requirements
- Greater efficiency
- Programming ease
- Greater throughput

Datacraft®

The SLASH 4 is the newest member of Datacraft's growing family of real-time computers. This versatile, high-speed processor was designed to handle real-time, time-sharing and batch scientific applications that overburden many of today's minicomputers. To upgrade your present system, or to respond to a new requirement, the real "medium-scale" computer, Datacraft's SLASH 4, provides your solution. Datacraft's hardware strengths and software powers are accentuated in the SLASH 4. The result is a higher throughput rate thereby providing faster, more economical solutions.

The SLASH 4 is the true "medium-scale" computer. The powerful processor is oriented toward scientific, real-time problem solving and features a 24-bit word length that offers most capabilities of the 32-bit computers at a cost of the 16-bit models.

The same highly reliable manufacturing techniques proven with earlier Datacraft computers such as multilayer backplanes, MSI technology and planar core memories, are all utilized in the new SLASH 4. Standard hardware features include: 24K bytes of core memory • parity • hardware multiply/divide/square root • priority interrupt control system • four external priority interrupts • five registers (three index) • one 8-bit, fully buffered, input/output channel.

Available as optional features are enhancements that personalize the SLASH 4 to your requirements. Features such as floating point hardware, for the rapid execution of double-precision floating point arithmetic (39-bit mantissa plus 8-bit exponent). Available also is a mixed optional memory system of high-speed semiconductors and magnetic core that further augments the basic SLASH 4. The semiconductor memory is available as a 24K or a 48K byte, triple-port unit featuring a cycle time of 150 nanoseconds.

In keeping with company policy, the software is completely compatible with the entire family of Datacraft computers. Our field-proven software library includes five languages, four operating systems and six support packages. The facility for concurrent real-time, time-sharing and batch processing is our software plus. A powerful Disc Monitor System (DMS), utilizes the hardware design by offering foreground/background, multi-programming, spooled I/O, interactive terminal support, dynamic memory allocation, time-scheduled programs, and dynamic file creation.

Compatibility is again underscored in the input/output structure. Because Datacraft I/O design is consistent with the entire computer family, a fully developed, comprehensive peripheral product line is insured.

A wide variety of optional features are available with the SLASH 4. Factory wired or ready for field-installation, the SLASH 4 capabilities can be extended to satisfy individual requirements.

OPTIONS

Chain Block Controllers (CBC) and External Block Controllers (XBC).
Up to 48 Vectored External Interrupts (can also be triggered under Software Control).
Hardware Bootstrap.
Interval Timer. (Real-Time Clock.)
Power Failure Shutdown and Restart.
Program Restrict and Instruction Trap.
120 Hz Clock.
Address Trap.
Stall Alarm.
Up to 768K bytes of core.
Scientific Arithmetic Unit.
Virtual Memory Hardware.
Semiconductor Memory, in 24K or 48K bytes.
I/O Processor interface to semiconductor memory with up to 4 I/O Processors.

TECHNICAL SPECIFICATIONS

Double Precision Floating Point: (optional)

Instruction Timing (In Microseconds)	Fixed Point Register-to-Register	Memory Access	Floating Point Double-Precision (Optional Hardware)
Add	0.75	1.5	2.25
Subtract	0.75	1.5	2.25
Multiply	6.0	6.0	5.25
Divide	11.25	11.25	12.00
Square Root	5.25	—	9.75

Word Length: 24 bits + Parity
Cycle Time: 750 Nasoseconds
Memory Addressing: Direct to 96K bytes
Indirect to 768K bytes
Memory Size: 24K basic, expandable in 24K increments to 768K bytes
Input Output: Single word to/from A register, 8 or 24 bits

Programmed Data Transfer	External Control Lines External Sense Lines Maximum of 24 (Up to 24 channels total — only 12 of which may be CBC's) channels, 16 units per channel
Automatic Data Transfer	Maximum of 12 Chain Block Controllers (CBC) for automatic memory access Rates up to 444K words per second on Single CBC,
I/O Processor	Connects to the semiconductor memory option — can have up to 4 interfaces. Single channel rates up to 4M bytes per second
Priority Interrupts	Maximum of 8 executive traps and 48 external interrupts available. All external interrupt levels may be individually enabled, disabled, armed, disarmed, or triggered.

Registers:

A Register	Main Arithmetic Register
E Register	Main Arithmetic Register Extension
I Register	24-bit General Purpose or Index Register
J Register	24-bit General Purpose or Index Register
K Register	24-bit General Purpose or Index Register
Instruction Register	24-bit Register holds instructions while they are being executed
Operand Register	24-bit Register used for holding operands in arithmetic execution and for entry from the control panel
Program Address Register	16-bit Register for storage of the current instruction address
Shift Control Register	8-bit Register used for certain arithmetic and shift operations
Condition Register	4-bit Register used to indicate the status of arithmetic operations and data transfers
Memory Address Register	16-bit Register used to hold memory address
Memory Data Register	26-bit Register used to hold memory data and parity
Timer Register	24-bit Optional General Purpose Register usable as an interval timer
Upper Limit and Lower Limit Registers	16-bit Registers used for holding program restrict limits. Provided with optional program restrict.

Console:

Display	Program Address Register Condition Register Parity Error Bypass Auto Halt Display Register (for memory and all working registers individually selected)
Controls	Four Sense Switches Run/Halt Execute Instruction Register Advance Program Counter Manual/Auto Register Entry and Clear Switches 24-bit Entry Switches 24-bit Switch Register
Operating Environment	1010°C to 45°C (50° to 113°F). (0°C to 50°C, optional.) 20-90% relative humidity (non-condensing)
Power Requirements	117 VAC + 10% 48 — 62Hz 18 Amperes (Basic Chassis) Data Save in Memory System Power Failure, Shutdown & Restart optionally available.

Specifications subject to change without written notice.

Datacraft

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